CLAIMS:

1. A method for inducing melanogenesis in a human subject having an MC1R variant allele associated with loss of or diminished receptor function, which comprises the steps of administering to said subject an amount of an α-MSH analogue effective to induce melanogenesis by the melanocytes in the skin or other epidermal tissue of the subject.

2. The method of claim 1, wherein the α-MSH analogue is selected from:

(a) compounds of the formula:

Ac-Ser-Tyr-Ser-M-Gln-His-D-Phe-Arg-Trp-Gly-Lys-Pro-Val-NH_2

wherein M is Met, Nle or Lys; and

(b) compounds of the formula:

R_1-W-X-Y-Z-R_2

wherein

R_1 is Ac-Gly-, Ac-Met-Glu, Ac-Nle-Glu-, or Ac-Tyr-Glu-;

W is –His- or –D-His-;

X is –Phe-, -D-Phe-, -Tyr-, -D-Tyr-, or -(pNO_2)D-Phe^7-;

Y is –Arg- or –D-Arg-;

Z is –Trp- or –D-Trp-; and

R_2 is –NH_2; -Gly-NH_2; or –Gly-Lys-NH_2.

3. The method of claim 1, wherein the α-MSH analogue is a cyclic analogue wherein an intramolecular interaction exists (1) between the amino acid residue at position 4 and an amino acid residue at position 10 or 11, and/or (2) between the amino acid residue at position 5 and the amino acid residue at position 10 or 11.

4. The method of claim 3, wherein the intramolecular interaction is a disulfide bond or other covalent bond.

5. The method of claim 1, wherein the α-MSH analogue is selected from the group consisting of:

Ac-Ser-Tyr-Ser-Nle-Glu-His-D-Phe-Arg-Trp-Lys-Gly-Pro-Val-NH_2

Ac-Ser-Tyr-Ser-Nle-Asp-His-D-Phe-Arg-Trp-Lys-Gly-Pro-Val-NH_2

Ac-Nle-Glu-His-D-Phe-Arg-Trp-Lys-Gly-Pro-Val-NH_2

Ac-Nle-Asp-His-D-Phe-Arg-Trp-Lys-Gly-Pro-Val-NH_2

Ac-Nle-Asp-His-D-Phe-Arg-Trp-Gly-NH_2

Ac-Nle-Glu-His-D-Phe-Arg-Trp-Lys-NH_2

Ac-Nle-Asp-His-D-Phe-Arg-Trp-Lys-NH_2

Ac-Nle-Glu-His-D-Phe-Arg-Trp-Orn-NH_2

Ac-Nle-Asp-His-D-Phe-Arg-Trp-Orn-NH_2

Ac-Nle-Glu-His-D-Phe-Arg-Trp-Dab-NH_2

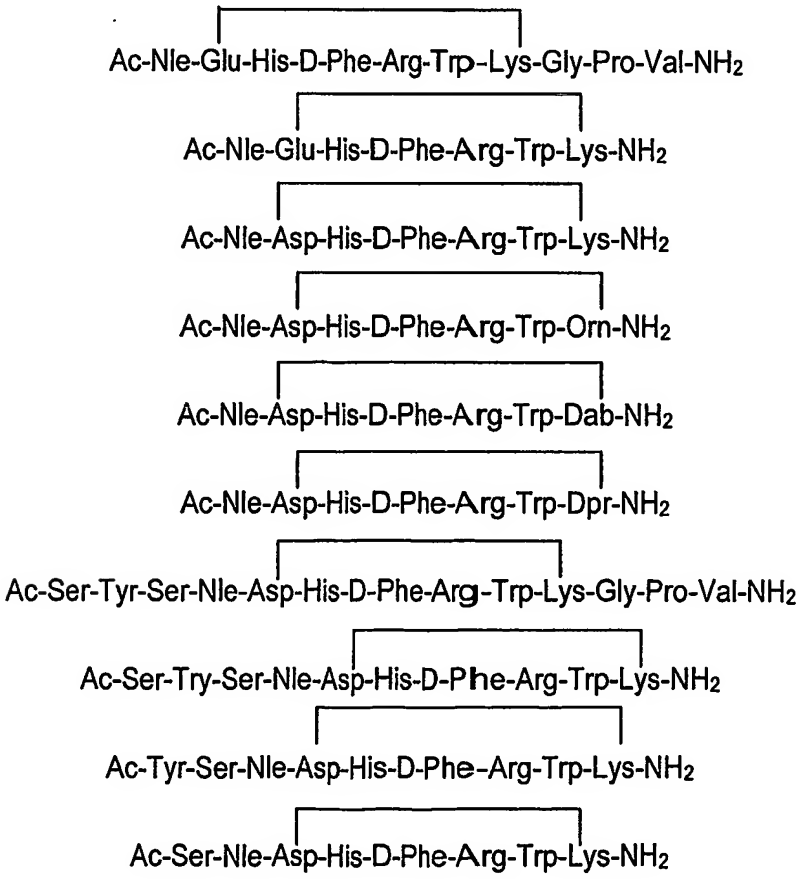
Ac-Nle-Asp-His-D-Phe-Arg-Trp-Dab-NH_2

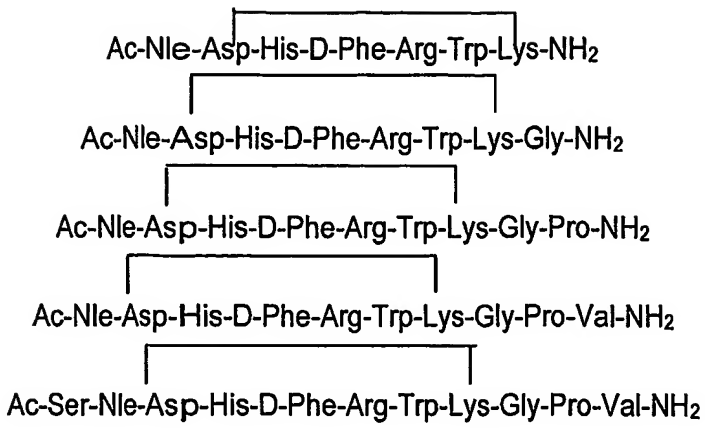
Ac-Nle-Glu-His-D-Phe-Arg-Trp-Dpr-NH_2

Ac-Nle-Glu-His-Phe-Arg-Trp-Lys-NH_2

Ac-Nle-Asp-His-Phe-Arg-Trp-Lys-NH_2

6. The method of claim 1, wherein the α-MSH analogue is selected from the group consisting of:





7. The method of claim 1, wherein the α-MSH analogue is

[D-Phe^{7}]-α-MSH,

[Nle^{4}, D-Phe^{7}]-α-MSH,

[D-Ser^{1}, D-Phe^{7}]-α-MSH,

[D-Tyr^{2}, D-Phe^{7}]-α--MSH,

[D-Ser^{3}, D-Phe^{7}]-α--MSH,

[D-Met^{4}, D-Phe^{7}]-α-MSH,

[D-Glu^{5}, D-Phe^{7}]-α-MSH,

[D-His^{6}, D-Phe^{7}]-α-MSH,

[D-Phe^{7}, D-Arg^{8}]-α-MSH,

[D-Phe^{7}, D-Trp^{9}]-α-MSH,

[D-Phe^{7}, D-Lys^{11}]-α-MSH,

[D-Phe-^{7}, D-Pro^{12}]-α-MSH,

[D-Phe^{7}, D-Val^{13}]-α-MSH,

[D-Ser^{1}, Nle^{4}, D-Phe^{7}]-α-MSH,

[D-Tyr^{2}, Nle^{4}, D-Phe^{7}]-α-MSH,

[D-Ser^{3}, Nle^{4}, D-Phe^{7}]-α-MSH,

[Nle^{4}, D-Glu^{5},D-Phe^{7}]-α-MSH,

[Nle^{4}, D-His^{6}, D-Phe^{7}]-α-MSH,

[Nle^4, D-Phe^7, D-Arg^8]-α-MSH,

[Nle^4, D-Phe^7, D-Trp^9]-α-MSH,

[Nle^4, D-Phe^7, D-Lys^{11}]-α-MSH,

[Nle^4, D-Phe^7, D-Pro^{12}]-α-MSH,

[Nle^4, D-Phe^7, D-Val^{13}]-α-MSH,

[Cys^4, Cys^{10}]-α-MSH

[Cys^4, D-Phe^7, Cys^{10}]-α-MSH

[Cys^4, Cys^{11}]-α-MSH

[Cys^5, Cys^{10}]-α-MSH

[Cys^5, Cys^{11}]-α-MSH

[Cys^4, Cys^{10}]-α-MSH$_{4-13}$

[Cys^4, Cys^{10}]—α-MSH$_{4-12}$

[Nle^4, D-Phe^7]-α-MSH$_{4-10}$,

[Nle^4, D-Phe^7]-α-MSH$_{4-11}$,

[D-Phe^7]-α-MSH$_{5-11}$,

[Nle^4, D-Tyr^7]-α-MSH$_{4-11}$,

[(pNO$_2$)D-Phe^7]-α-MSH$_{4-11}$,

[Tyr^4, D-Phe^7]-α-MSH$_{4-10}$,

[Tyr^4, D-Phe^7]-α-MSH$_{4-11}$,

[Nle^4]-α-MSH$_{4-11}$,

[Nle^4, (pNO$_2$)D-Phe^7]-α-MSH$_{4-11}$,

[Nle^4, D-His^6]-α-MSH$_{4-11}$,

[Nle^4, D-His^6, D-Phe^7]-α-MSH$_{4-11}$,

[Nle^4, D-Arg^8]-α-MSH$_{4-11}$,

[Nle^4, D-Trp^9]-α-MSH$_{4-11}$,

[Nle^4, D-Phe^7, D-Trp^9]-α-MSH$_{4-11}$,

[Nle^4, D-Phe^7]-α-MSH$_{4-9}$, or

[Nle^4, D-Phe^7, D-Trp^9]-α-MSH$_{4-9}$.

8. The method of claim 1, wherein the α-MSH analogue is

[Nle^4, D-Phe^7]-α-MSH$_{4-10}$,

[Nle^4, D-Phe^7]-α-MSH$_{4-11}$,

[Nle^4, D-Phe^7, D-Trp^9]-α-MSH$_{4-11}$, or

[Nle^4, D-Phe^7]-α-MSH$_{4-9}$.

9. The method of claim 1, wherein the α-MSH analogue is [Nle^4, D-Phe^7]-α-MSH.

10. Use of an α-MSH analogue in the manufacture of a preparation for inducing melanogenesis in a human subject having an MC1R variant allele associated with loss of or diminished receptor function.